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United States Patent [19]

Holmes et al.

[11] **Patent Number:** 6,026,679

[45] **Date of Patent:** Feb. 22, 2000

[54] **METHOD TO INFER ENGINE COOLANT TEMPERATURE IN CYLINDER HEAD TEMPERATURE SENSOR EQUIPPED VEHICLES**

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[21] Appl. No.: **09/037,508**

[22] Filed: **Mar. 10, 1998**

[51] **Int. Cl.**[7] G01L 3/26; G01K 1/08;
B60Q 1/00; F01P 5/14

[52] **U.S. Cl.** 73/117.3; 73/116; 374/145;
340/449; 123/41.15

[58] **Field of Search** 73/116, 117.3;
123/41.15; 340/449, 439; 374/144, 145

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,393,365	7/1983	Kondo et al. .
4,984,454	1/1991	Feller et al. .
5,020,007	5/1991	Wu et al. .
5,201,840	4/1993	Sausnet et al. 374/145
5,669,337	9/1997	Drouillard .

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Attorney, Agent, or Firm—Steven A. Maynard

[57] **ABSTRACT**

The present invention provides a method of inferring the engine coolant temperature in cylinder head temperature sensor equipped vehicles including the steps of measuring the cylinder head temperature, calculating the engine coolant temperature from the measured cylinder head temperature as a function of at least one vehicle operational state, generating a signal for the calculated engine coolant temperature, and sending the generated signal to a display.

18 Claims, 2 Drawing Sheets